Methods and Apparatus for Converting an Orthogonal Pixel Format to a Diamond Pixel Format

ABSTRACT OF THE DISCLOSURE

Apparatus for converting orthogonal data to a format suitable for displaying the image on a diamond-shaped pixel array. A stream of digital data formatted for being displayed on an orthogonal pixel array is received at an IIR (Infinite Impulse Response) filter. The digital data stream is conditioned so that it can be sub-sampled and used on a diamond-shaped pixel array with minimal distortion. The sub-sampling comprises dropping even pixels in odd numbered orthogonal rows and dropping odd pixels on all even numbered rows. A tap is included at the IIR filter for providing a partially filtered version of the data stream to circuitry for reducing "ringing" of the image. The circuitry also detects edges in the image and emphasizes vertical transitions when a vertical edge is detected and emphasizes horizontal transitions when a vertical edge is not detected.